Application No. 09/682,489

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. **(Currently Amended)** An apparatus for processing an electronic document in accordance with a document service request, said apparatus comprising:

an output device for responding to a request to establish a first wireless communication channel; the output device being adapted to respond to discovery requests and output a representation of electronic documents;

a document server for responding to a request to establish a second wireless communication channel; the document server being adapted to render electronic documents into formats suitable for output devices;

a mobile computing device for bridging communications between (i) the output device over the first wireless communication channel and (ii) the document server over the second wireless communication channel;

wherein the mobile computing device further comprises means for:

(a) executing a discovery request over the first wireless communication channel to identify one or more output devices available over the first wireless communication channel;

(b) receiving from the output device in response to the discovery request a list of available services that specifies a desired or preferred format in which to receive the electronic document;

(c) specifying the document service request in response to user input that includes a first parameter identifying a location of the electronic document and a second parameter identifying a type of output device for performing the document service request;

(d) sending the document service request to the [[output device]] document server for rendering the electronic document, which is identified by the first parameter, into a format suitable for the output device, which is identified by the second parameter;

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(e) transmitting to the output device over the first wireless communication channel the rendered electronic document it receives from the document server over the second wireless communication channel.

2. (Previously Presented) The apparatus according to claim 1, wherein

the second parameter identifying the type of output device available over the first wireless communications channel identifies a printing class of service; and

means forming part of the document server upon receipt of the document service request from the mobile computing device:

locates the electronic document identified by the first parameter of the document service request;

loads a driver corresponding to the type of output device identified by the second parameter of the document service request;

renders the located document using the loaded driver;

stores the rendered document in a print file; and

transmits the print file to the output device via the mobile computing device.

3. (Original) The apparatus according to claim 1, wherein the document server and the output device have no preexisting communications channel there between.

4. (Canceled)

5. (Previously Presented) The apparatus according to claim 2, wherein the document server applies one or more of a document enrichment, translation, conversion, summarization, recommender service to the document before preparing the document in the format suitable for the output device.

6. (Previously Presented) The apparatus according to claim 2, wherein the document server communicates with a file server for retrieving the document.

7. (Original) The apparatus according to claim 1, wherein the output device is one of a printer, a display, a file server, and a speaker.

8. (Previously Presented) The apparatus according to claim 2, wherein the format suitable for the output device is a device dependent format.

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9. (Canceled)

10. (Original) The apparatus according to claim 1, wherein the document service request includes a third parameter identifying one or more document services to apply to the document.

11. (Original) The apparatus according to claim 10, wherein the document services identified by the third parameter is one of a summarization service, an enrichment service, a recommender service, and a translation service.

12. (Canceled)

13. (Original) The apparatus according to claim 1, wherein the document server forms part of an input device.

14. (Original) The apparatus according to claim 13, wherein the input device is an image-recording device.

15-18. (Canceled)

19. (Previously Presented) The apparatus according to claim 1, wherein the document server and the output device have an insecure preexisting communications channel there between.

20-21. (Canceled)

22. (Previously Presented) The apparatus according to claim 1, wherein the first parameter is specified using a URL.

23-24. (Canceled)

25. (**Currently Amended**) A method for processing an electronic document in accordance with a document service, said method comprising:

responding, with an output device, to a request to establish a first wireless communication channel; the output device being adapted to respond to discovery requests and output representations of electronic documents;

responding, with a document server, to a request to establish a second wireless communication channel; the document server being adapted to render electronic documents into formats suitable for output devices;

bridging, with a mobile computing device, communications between (i) the

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output device over the first wireless communication channel and (ii) the document server over the second wireless communication channel;

wherein the mobile device in bridging communications with the output device and the document server further comprising:

(a) executing a discovery request over the first wireless communication channel to identify one or more output devices available over the first wireless communication channel;

(b) receiving from the output device in response to the discovery request a list of available services that specifies a desired or preferred format in which to receive the electronic document;

(c) specifying the document service request in response to user input that includes a first parameter identifying a location of the electronic document and a second parameter identifying a type of output device for performing the document service request;

(d) sending the document service request to the [[output device]] <u>document server</u> for rendering the electronic document, which is identified by the first parameter, into a format suitable for the output device, which is identified by the second parameter;

(e) transmitting to the output device over the first wireless communication channel the rendered electronic document it receives from the document server over the second wireless communication channel.

26. (Previously Presented) The method according to claim 25, wherein

the second parameter identifying the type of output device available over the first wireless communications channel identifies a printing class of service; and

the document server upon receipt of the document service request from the mobile computing device:

locates the electronic document identified by the first parameter of the document service request;

loads a driver corresponding to the type of output device identified by the second parameter of the document service request;

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renders the located document using the loaded driver;

stores the rendered document in a print file; and

transmits the print file to the output device via the mobile computing device.

27. (Previously Presented) The method according to claim 26, wherein the document server applies one or more of a document enrichment, translation, conversion, summarization, recommender service to the document before preparing the document in the format suitable for the output device.

28. (Previously Presented) The method according to claim 25, wherein the first wireless communication channel is a limited communication channel and the second wireless communication channel is an unlimited communication channel.

29. (Previously Presented) The method according to claim 25, wherein the document service request includes a third parameter identifying one or more document services to apply to the document, and wherein the document services identified by the third parameter is one of a summarization service, an enrichment service, a recommender service, and a translation service.

30. (Currently Amended) An apparatus for processing an electronic document in accordance with a document service, said apparatus comprising:

a printer for responding to a request to establish a first wireless communication channel; the printer being adapted to respond to discovery requests and output hardcopy representations of electronic documents;

a document server for responding to a request to establish a second wireless communication channel; the document server being adapted to render electronic documents into formats suitable for printers;

a mobile computing device for bridging communications between (i) the printer over the first wireless communication channel and (ii) the document server over the second wireless communication channel;

wherein the mobile computing device further comprising means for:

(a) executing a discovery request over the first wireless communication channel to identify one or more output devices available over the first wireless communication channel;

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(b) receiving from the printer in response to the discovery request a list of available services that specifies a desired or preferred format in which to receive the electronic document;

(c) specifying the document service request in response to user input that includes a first parameter identifying a location of the electronic document and a second parameter identifying a type of printer for performing the document service request;

(d) sending the document service request to the [[printer]] <u>document server</u> for rendering the electronic document, which is identified by the first parameter, into a format suitable for the printer, which is identified by the second parameter;

(e) transmitting to the printer over the first wireless communication channel the rendered electronic document it receives from the document server over the second wireless communication channel.

31. (Previously Presented) The apparatus according to claim 30, wherein the document server upon receipt of the document service request from the mobile computing device comprises means for:

locating the electronic document identified by the first parameter of the document service request;

loading a driver corresponding to the type of printer identified by the second parameter of the document service request;

rendering the located document using the loaded driver;

storing the rendered document in a print file; and

transmitting the print file to the printer via the mobile computing device.

32. (Previously Presented) The apparatus according to claim 31, wherein the document server applies one or more of a document enrichment, translation, conversion, summarization, recommender service to the document before preparing the document in the format suitable for the printer.

33. (Previously Presented) The apparatus according to claim 30, wherein the first wireless communication channel is a limited communication channel and the

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second wireless communication channel is an unlimited communication channel.

34. (Previously Presented) The apparatus according to claim 30, wherein the document service request includes a third parameter identifying one or more document services to apply to the document, and wherein the document services identified by the third parameter is one of a summarization service, an enrichment service, a recommender service, and a translation service.

35. (Previously Presented) The apparatus according to claim 1, wherein the first wireless communication channel is a limited communication channel and the second wireless communication channel is an unlimited communication channel.